

Reducing Unaccounted-For Water

Reducing system loss may improve operational efficiency, lower system costs and reduce cross-connection liability. If a water audit shows that a system has more than 20 percent unaccounted-for water, the Department of Health requires actions to identify and address the deficits. Ten percent or less unaccounted-for water is the recommended standard.

In some cases water only *seems* to be missing. Human errors (accounting or meter reading) or inaccurate meters may give an impression of lost water, but *genuine* water loss is typically caused by:

- Authorized, unmetered uses
- Water theft
- Reservoir overflow
- Leaks

Unaccounted-for water caused by authorized, unmetered uses; water theft; and reservoir overflow can be addressed through administrative or enforcement actions. A systematic process is needed to identify system leaks.

Leak Detection

- The first step in a leak detection program is a preliminary survey to determine obvious leaks and water losses through malfunctioning pumps, valves, meters and other appurtenances.
- The next step is to measure water flow by isolating each distribution zone, then listening to water movement, testing pressures, and watching tank levels and meters to determine leakage.
- The third step is to pinpoint leaks with listening devices (which can be as simple as using a screwdriver to listen for vibrations, to using ground microphones).
- The fourth step is to record the size and location of leaks.
- The final step is to repair the found leaks. Depending upon the extent of the leaks, repairs or replacement may need to be scheduled into a capital improvement program.

Leak detection can be conducted either by a utility crew or by a contracted firm. Evergreen Rural Water of Washington (509-962-6326, www.erwow.org) offers leak detection and water audit training, and provides leak detection service to systems with less than 10,000 population in cooperation with the Division of Drinking Water.

*For assistance with
water use efficiency
planning, contact
your regional water
conservation specialist.*

**Northwest
Regional Office -
253-395-6769**

**Southwest
Regional Office -
360-664-2543**

**Eastern
Regional Office -
509-456-5067**

Where To Get More Information

An Introduction to Water Loss and Leak Detection, Evergreen Rural Water of Washington Association

Water Audits Introduction, Training Guide TGR-12-95, National Rural Water Association

Water Audits and Leak Detection, Manual #36, American Water Works Association

Water Conservation Guidebook For Small and Medium-Sized Utilities, American Water Works Association, Pacific Northwest Section